

ABSTRACT OF THE DISCLOSURE

Devices, apparatus and methods are disclosed for carrying out processing steps involved in chemical reactions such as hybridization reactions conducted on the surface of a substrate comprising chemical compounds such as biopolymer features. A device comprises a housing comprising a housing chamber. The housing comprises an opening through which a substrate may be inserted into the housing chamber. The device may also comprise a lift mechanism for moving the substrate in and out of the housing chamber in a controlled manner. At least one inlet may be in fluid communication with the housing chamber and at least one outlet may be in fluid communication with the housing chamber. Also disclosed are methods wherein the surface is brought into contact with a processing fluid; and, then, the surface is removed from contact with the fluid in a controlled manner at a rate that substantially eliminates droplet formation of the fluid on the surface of the substrate.